

ABSTRACT OF THE INVENTION

A solenoid-type fuel injector assembly having at least one component formed of stabilized, solenoid-quality ferritic stainless steel. In a preferred embodiment, an austenitic fuel tube is laser-welded to an injector body and to a solenoid pole piece formed of the subject material. The stabilized, solenoid-quality ferritic stainless steel, preferably a free-machining grade thereof, comprises from about 10% to about 35% chromium, and at least one stabilizing element selected from the group consisting of titanium and columbium. Components thus formed are weldable, exhibit soft magnetic properties sufficiently strong for carrying a magnetic flux in a solenoid pole piece, have desired structural and mechanical properties, and reduce the susceptibility of a solenoid-type fuel injector to metallurgical sensitization and intergranular corrosive attack at weld sites.

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